ENVIRONMENTAL SUSTAINABILITY STRATEGY

July 2017

HARROW SCHOOL

PURPOSE

The primary role of the School is to prepare boys with diverse backgrounds and abilities for a life of learning, leadership, service and personal fulfilment. Our Environmental Sustainability (ES) Strategy seeks to support this purpose by delivering a more cost-efficient institution that meets its environmental responsibilities and demonstrates control of its ethical and social impacts.

AIM

The aim is to shape an organisation that will be recognised for environmental and sustainability excellence.

GENERAL

An environmentally sustainable Harrow School of the future is one where our biggest impacts are addressed and our greatest opportunities are maximised. Learning opportunities – in formal and other settings – can maximise the sustainability literacy of our students and staff. The School's activities produce a carbon footprint that should be reduced through a carbon management programme. The School is guided by its existing Environmental Sustainability Policy (2015), which promotes green practice in the management of its estate.

STRATEGIC AIMS

Our three strategic aims cover:

- the environmental impact of the estate
- teaching and learning
- carbon reduction.

From these aims, tangible, achievable and (wherever possible) measurable objectives and targets will be established, covering a rolling five- to ten-year period. The Operations Bursar will lead on Aim 1 (environmental impact) and Aim 3 (carbon reduction), and will direct the Estates Department on this Environmental Sustainability Strategy. David Morgan will lead on Aim 2 (teaching and learning).

OPERATIONAL OBJECTIVES FOR THE STRATEGIC AIMS

AIM 1 - THE ENVIRONMENTAL IMPACT OF THE ESTATE

To measure the environmental impacts of a range of the School's estates-based activities in order to establish baselines against which targets for improvement can be set.

To achieve this aim we will strive to achieve operational objectives under the following work themes:

- carbon and energy management
- waste management
- sustainable travel management
- water management
- biodiversity management
- sustainable procurement
- green design, construction, renovation and maintenance

- corporate social responsibility
- communication.

BACKGROUND

The objectives relate primarily to the work of the Estates Directorate overseen by the Operations Bursar (in liaison with the Head of Capital Development for capital development projects). Further environmental objectives and targets will be set after baseline reviews (establishing the starting point for work themes) have produced a picture of the status quo per area of work. Where work within some themes is at an early stage, the objectives necessarily relate to reviewing the baseline and establishing systems rather than achieving specific environmental objectives.

CARBON AND ENERGY MANAGEMENT

The aim is to reduce the amount of energy consumed by the School and thus lower its carbon footprint. In the academic year from 1 September 2015 to 31 August 2016, the School's electricity, gas and water utilities bill was £771,932. The electricity used in non-residential building generates the largest portion of the School's overall carbon emission; it will be the least efficient of those buildings that will provide the immediate focus of energy work. Once automated meters have been installed in all School properties, work to reduce carbon emissions in this area can begin. Our objectives and targets are to:

- reduce our overall carbon footprint by 40% by 2030;
- write an energy strategy in line with Display Energy Certificate (DEC) production – the first energy strategy is due to be produced in 2017/18;
- combined heat and power (CHP) feasibility will be considered in every strategic energy reviewing period and for all major development projects;
- produce virtual DECs for all School buildings over the period 2017-2020;
- install automated metering in all buildings during the period 2017- 2020;

We are already taking immediate and ongoing opportunities to make savings from tried and tested energy-saving technology and devices such as LED lighting.

WASTE MANAGEMENT

The primary role of the waste management team is to ensure the legal disposal of waste while attempting to reduce overall waste by reusing and recycling materials where possible. Furthermore, we will identify the scope for financial savings by examining greater recycling on site. This will include increasing the volume and type of wastes recycled or reused and implementing schemes such as packaging 'take-back'. Current recycling rates across the estate are estimated by the contractor to be around 99%, based on their recycling of our waste. The picture of recycling at the boarding Houses is less clear and a waste review of boarding Houses is a work objective for the team this year.

Our objectives and targets on waste are to:

- aim for a 5% decrease in waste figures per capita from 2017/18;
- complete the first review of waste and recycling in boarding Houses (based on 2015/16 levels) with a view to setting targets for waste reduction, and examine recycling and separation of waste by the School.

SUSTAINABLE TRAVEL MANAGEMENT

Sustainable travel management aims to provide as many alternatives to single occupancy vehicle (SOV) use as possible through improvements to infrastructures for cycling, walking, car sharing and the use of public transport. Additional aims include relieving pressure on existing car parking spaces.

Strategic objectives for this area are to:

- capture commuter and business travel data for carbon-footprinting purposes;
- meet the targets set in the Master Plan Sustainable Travel Statement in connection with the planned new buildings (Sports Centre and Science)

- set targets for the following once a baseline is established by the travel plan:

    - increase in cycling for commuting and work business by staff
    - increase in use of public transport for commuting and for work business and study purposes;
    - per capita increase of lockable cycle storage at school sites;
    - increase in walking to work;
    - decrease in carbon emissions from commuting and business travel;
    - maximise the adoption of lower carbon fuels in School vehicles.

WATER MANAGEMENT

At just under £100,000 per annum, the environmental impact of the School's water use is significant. Savings are achievable if water-saving devices (waterless urinals, push taps, water-efficient showerheads, leak detection, etc.) are in place throughout the School. Review work on water management should begin in 2017. Our key objectives are to:

- review water management of the entire estate (2017) to produce water and money-saving projects and make greater use of boreholes;
- set targets for reduction over a fixed time period once review data are available.

BIODIVERSITY MANAGEMENT

In the past, the five main semi-natural woodland areas on the Harrow School estate were under -managed: Grove Wood, Newlands Wood, Park Lake, the Watford Road Shelter Belt and Ducker Ditch. While not formally assessed, it is suspected that this led to a decline in their biodiversity (nature conservation) value. At a borough-wide level, the Harrow Council Bio-diversity Action Plan (BAP) (1) identifies such woodlands as a priority habitat requiring positive management to protect and enhance them. Furthermore, as classified by the aforementioned BAP, these Harrow School woodlands are within a Grade 1 Site of Importance for Nature Conservation (SINC) area and contain priority species.

In the context of the above and at a strategic estate level, Harrow School has commissioned a series of five-year woodland management plans (WMPs) for each of its woodlands. In creating and delivering these WMPs, Harrow School has committed to the Harrow Council BAP as a Key Delivery Partner and has embedded some of them in the Master Plan. As such, the School is playing its part in helping to implement this BAP.

The overall aims of these are WMPs are to:

- improve and enrich woodland biodiversity via pro-active management;
- eradicate invasive non-native species (3);
- use this resource as an outdoor classroom for Harrow School pupils;
- engage volunteers to assist with woodland management;
- in accordance with the School's legal Duty of Care, manage the tree risk in and along the woodland target areas.

SUSTAINABLE PROCUREMENT

The School annually commits significant expenditure to a host of products, processes and services. The aim is to ensure that the School commits money in as environmentally and socially responsible a manner as possible while also supporting ethical investment and ethical programmes. Objectives for this area are to:

- start a baseline review of procurement procedures and processes (2017/18);
- establish a sustainable procurement policy and processes (following on from the baseline review findings).

GREEN DESIGN, CONSTRUCTION, RENOVATION AND MAINTENANCE

While every opportunity will be taken to incorporate green design into the School's new build programme, where the existing estate needs renovation and maintenance, the potential to access any funding and grants available from government, national bodies and other organisations to support energy efficiency measures will be investigated (e.g. SALIX energy efficiency).

The Estates Directorate has adopted the principle of applying the BREEAM 'excellent' standard in all of its new building projects over £1 million and strives to achieve this at both design' and 'use' phases. Further developments over time will see green practices being applied to progressively smaller projects until green standards are incorporated in all construction and renovation projects. Our objectives are to:

- aspire to achieve BREEAM 'excellent' standards for every new building and refurbishment project over £1 million;
- make environmentally sound choices in design, renovation and construction through advice, training and CPD opportunities;
- develop codes for buildings, standard specification for low-energy technologies, etc.;
- baseline review processes, practices and produce a gap analysis in 2017/18.

CORPORATE SOCIAL RESPONSIBILITY

The School's responsibilities stretch beyond dealing with its environmental impact to include social and ethical considerations. The School is expected to be socially responsible in ways that are beyond its core educational remit. Ways to enhance our corporate social responsibility will be explored with Shaftesbury Enterprise.

COMMUNICATION

The aim of the communication element of the strategy is to ensure a regular flow of information, and to engage and inspire the School community to 'do their bit'. Good communication also relies upon externally recognised annual environmental reporting, seeking to:

- create, maintain and enhance an environmental webpage to improve its use as a communications tool;
- develop a communications strategy to plan regular events as well as produce constant 'drip-fed' information to School stakeholders.

AIM 2 - TEACHING AND LEARNING

To promote and raise awareness of teaching and learning that provides students and staff with relevant sustainability literacy.

- Review the current levels of environmental and sustainability teaching and learning (in 2016/17) and promote expansion of 'sustainability literacy' within programmes and courses
- Provide a range of opportunities for pupils and staff to engage in learning about sustainable development
- Explore options for including sustainability factors within the validation process in relation to teaching content and impact
- Integrate international student experiences in learning opportunities to broaden global sustainability understanding

HOW WILL THIS BE DONE?

Create an Education for Sustainable Development (ESD) Forum to establish how best to promote sustainability. This will assist in the integration of teaching and learning about sustainable development across the School. The importance of the work of this forum needs to be recognised and promoted. Sustainability forums can become talking shops with limited accountability and governance. There is a risk that the boys will not buy into the sustainability messages presented. Delivering and owning the carbon management plan, sustainability programme and targets will require the boys to 'buy-in'.

We recommended that boy 'sustainability champions' are created within the School and boarding Houses to own and promote sustainability activities. They would be tasked with providing information and feedback on performance against targets.

AIM 3 - CARBON REDUCTION

To align the School with the UK Paris Agreement undertakings to achieve an absolute reduction of 40% of the carbon emissions of the School by 2030 (based upon our 2015 ESOS carbon footprint baseline).

To achieve this aim we will:

- Communicate with staff, students and other stakeholders about the importance and value of carbon and energy savings in achieving the School's strategic aims. This is key as approximately 40% of the School's energy consumption comes from the boarding Houses.
- Produce a business case for increased energy efficiency and management (in spend-to-save schemes) following our work to achieve ESOS Compliance following a Government mandated energy audit of the estate, which was completed in September 2015.
- Develop and refurbish the School's estate to minimise additional carbon costs. This should be prioritised and focus on:
    - boarding Houses
    - academic buildings
    - Shepherd Churchill Dining Hall.
- Continue to reduce the carbon footprint associated with the School's production and handling of waste. A waste audit should be conducted to determine our significant waste streams.
- Commence a baseline review of the carbon impacts of School procurement by using financial data from our procurement to undertake a hotspot analysis of the most significant emissions sources.
- Continue to implement the recommendations of the Fisher German Energy Audit of August 2013.

HOW WILL WE DO THIS?

In the short term, the School should develop a Carbon Management Plan (CMP) as recommended in the Energy Audit of 2013 to capture this area of work. It should commit itself to achieving a 10% reduction in carbon emissions by 2018.

MASTER PLAN

A key objective of the Master Plan is to deliver an exceptional example of sustainable building that fits into the School grounds and surroundings.

The Master Plan energy strategy will follow the Mayor of London's 'Energy Hierarchy' as follows:

BE LEAN – reduce the demand for energy through passive design and energy efficiency measures such as good levels of insulation and efficient windows.

BE CLEAN – generate useful energy by using the most efficient technologies such as combined heat and power (CHP), which produces electricity in tandem with useful heat.

BE GREEN – use on-site renewable energy technologies to reduce the demands on the national grid and further reduce CO2 emissions, where feasible.

The Master Plan is required to achieve a 35% improvement over a Part L 2013 Target Emissions Rating in line with the stringent London Plan targets. In addition, the project is anticipated to achieve BREEAM 'Excellent'.

Approximately 600m² of solar PV panels will be provided to meet the residual carbon dioxide (CO2) reductions required by the various energy targets.

An Energy Centre will be located in the new Science building and will service both the Sports and Science buildings. This space will also allow energy to be distributed to other buildings on site in the future. A gas combined heat and power (CHP) engine will provide a low-carbon source of heating requirement to both buildings, while simultaneously generating electricity.

The School has a borehole extraction license in place with the Environment Agency. The borehole water is currently used to supply irrigation for the School's playing fields and uses less water than the license allows. It is the intention that borehole water will be used to provide free cooling to spaces that require it (e.g. the fitness suite, auditorium and ICT rooms).

Indoor air quality is an important factor in influencing pupil learning and health. The buildings will use natural ventilation chimneys (supplemented by a fresh air supply system) to allow a passive and comfortable way of ensuring high quality air.

CONCLUSION

This strategy is ambitious and seeks to place Harrow at the forefront of environmental sustainability activity in the independent education sector. Over the next two years, the intention is to produce plans that are practical, measurable (wherever possible) and deliverable, covering the full range of environmental sustainability opportunities. Thereafter, implementation of the plans through a rolling 5-10 year strategy will be actively managed by the Operations Bursar. For the strategy to succeed it will require evident buy-in and support from the Senior Management Team, Bursar's Management Group and House Masters.

Ralph Arundell

Operations Bursar

July 2017